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Class Counsel

1
2 **UNITED STATES DISTRICT COURT**
3 **CENTRAL DISTRICT OF CALIFORNIA**

4 KEITH ANDREWS, an individual,
5 TIFFANI ANDREWS, an individual,
6 BACIU FAMILY LLC, a California
7 limited liability company, ROBERT
8 BOYDSTON, an individual, MORGAN
9 CASTAGNOLA, an individual, THE
10 EAGLE FLEET, LLC, a California limited
11 liability company, ZACHARY FRAZIER,
12 an individual, MIKE GANDALL, an
13 individual, ALEXANDRA B. GEREMIA,
14 as Trustee for the Alexandra Geremia
15 Family Trust dated 8/5/1998, JIM
16 GUELKER, an individual, JACQUES
17 HABRA, an individual, MARK
18 KIRKHART, an individual, MARY
19 KIRKHART, an individual, RICHARD
20 LILYGREN, an individual, HWA HONG
21 MUH, an individual, OCEAN ANGEL IV,
22 LLC, a California limited liability
23 company, PACIFIC RIM FISHERIES,
24 INC., a California corporation, SARAH
25 RATHBONE, an individual,
26 COMMUNITY SEAFOOD LLC, a
27 California limited liability company,
28 SANTA BARBARA UNI, INC., a
California corporation, SOUTHERN CAL
SEAFOOD, INC., a California
corporation, TRACTIDE MARINE
CORP., a California corporation, WEI
INTERNATIONAL TRADING INC., a
California corporation and STEPHEN
WILSON, an individual, individually and
on behalf of others similarly situated,

22 Plaintiffs,

23 v.

24 PLAINS ALL AMERICAN PIPELINE,
25 L.P., a Delaware limited partnership,
26 PLAINS PIPELINE, L.P., a Texas limited
partnership, and JOHN DOES 1 through
10,

27 Defendants.

1 **Case No. 2:15-cv-04113-PSG-JEM**

2 [Consolidated with Case Nos. 2:15-CV-
3 04573 PSG (JEMx), 2:15-CV-4759 PSG
4 (JEMx), 2:15-CV-4989 PSG (JEMx),
5 2:15-CV-05118 PSG (JEMx), 2:15-CV-
6 07051- PSG (JEMx)]

7 **DECLARATION AND**
8 **SUPPLEMENT TO AUGUST 30,**
9 **2019 REPORT OF HUNTER S.**
10 **LENIHAN, Ph.D. RE: ADDITIONAL**
11 **DOCUMENTS CONSIDERED**

12 Date: May 18, 2020
13 Time: 1:30 p.m.
14 Location: Courtroom 6A
15 Judge: Hon. Philip S. Gutierrez

1 I, Hunter S. Lenihan, Ph.D., declare as follows:

2 1. I am a Professor of Applied Marine and Fisheries Ecology at the Bren
3 School of Environmental and Science Management at the University of California, Santa
4 Barbara (“UCSB”). I am also the founder of the Sustainable Aquaculture Research
5 Center. I have been retained by Class Counsel in this matter.

6 2. The purpose of this declaration is to supplement my August 30, 2019
7 Amended and Supplemental Report to identify recently published research that I received
8 and considered after completion of my August 2019 report. This new research relates to
9 but does not alter my opinions in this matter. In particular, the additional research is
10 consistent with and reinforces my opinions in Paragraphs 26 and 27 of my August 2019
11 report that “very low levels of PAHs can reduce demographic performance . . .” and that
12 “even PAH concentrations of less than 1 ppb are harmful to fish. . . .”

13 3. The research appears in a paper published in March 2020, arising out of the
14 Deepwater Horizon spill, which presents the results of recent analysis showing that PAH
15 levels less than 1 ppb are lethal to a wide variety of marine organisms. Berenshtein, I.,
16 Paris, C.B., Perlin, N., Alloy, M.M., Joye, S.B. and Murawski, S., 2020. Invisible oil
17 beyond the Deepwater Horizon satellite footprint. *Science Advances*, 6(7). The authors
18 report that, once one takes account of photoinduced toxicity of PAHs (the process by
19 which PAHs exposed to UV sunlight can become more toxic), toxicity exists at a
20 concentration level of 0.5 ppb, and that low levels of toxic PAHs are “invisible to
21 satellite/areal detection methods.” The paper also states that “recent studies revealed that
22 toxicity to early-life-stage organisms may occur at much lower concentrations because of
23 the combined effect of PAH and UV, which increases the toxicity by 10- to 200-fold
24 compared to PAH alone, as well as due to cardiac toxicity and developmental
25 abnormalities at similarly low PAH levels.” NRDA data cited by the authors (at note 4,
26 table 4.3-4) shows a 50% mortality rate for bay anchovies at a UV-adjusted PAH level of
27 0.1 ppb and for other species in a range of 0.2 ppb to 2.9 ppb.

28

1 4. These findings are consistent with my report that there are no known “safe
2 levels” of PAH toxicity for marine life and that availability of commercial marine species
3 along the Central California coastline would be negatively impacted by the volumes of
4 oil released into the channel as a result of the Refugio oil spill, particularly when the
5 impact of photoinduction is taken into account.

6 DATED this 17th day of April, 2020, at Santa Barbara, CA

J. H. H.

Hunter S. Lenihan, Ph.D.

CERTIFICATE OF SERVICE

I, Juli Farris, hereby certify that on April 20, 2020, I electronically filed the foregoing with the Clerk of the United States District Court for the Central District of California using the CM/ECF system, which shall send electronic notification to all counsel of record.

/s/ Juli Farris